

Buena Vista Ecological Reserve
(CNLM No: S037)

Annual Work Plan
October 2010 - September 2011

Prepared for:

U.S. Fish and Wildlife Service

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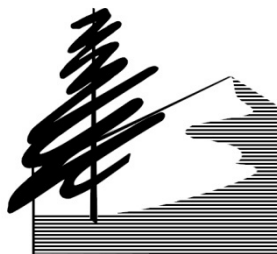
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I. Introduction and Summary

This annual work plan has been developed from the management guidelines of the Buena Vista Creek Ecological Reserve Management and Funding Agreement (MFA) signed in August of 2007 (CNLM/CDFG 2007) between the Center for Natural Lands Management (CNLM or Center) and the California Department of Fish and Game (CDFG) and from the Draft Habitat Management Plan (HMP; CNLM 2008) for the site. Associated with the MFA and HMP is a detailed Property Analysis Record (PAR), which outlines a list of management tasks and costs that were agreed upon during CNLM's negotiations with CDFG.

The Buena Vista Creek Ecological Reserve (Reserve) is located along State Route 78 (SR-78) between the two termini of Haymar Drive (east and west) (Appendix 1). SR-78 is along the northern boundary and a golf driving range is located along the western boundary. Unprotected open space abuts to eastern and most of the southern boundaries, but some housing borders the Reserve along the southwest and western margins.

CDFG has held title to the Reserve since approximately March 2007 and CNLM manages it pursuant to the MFA (as of August 2007). The Buena Vista Creek Ecological Reserve Supplemental Environmental Project (SEP) Habitat Restoration Plan (HRP) is currently under review, and will likely be approved for full implementation at the beginning of this management year.

The purpose of this work plan is to identify the tasks and budget required to complete the management activities for the upcoming fiscal year. The fiscal year encompasses the period from October 1, 2010 through September 30, 2011. Unless otherwise stated, all tasks will be performed by CNLM's Preserve Manager, Patrick McConnell and Rangers, Roberto Bejar, Zadok Othniel and Justin Trujillo.

Summary of Tasks and Goals for the Fiscal Year:

- Document all animal species observed, and map locations of any new/additional sensitive species
- Conduct brown-headed cowbird (*Molothrus ruber*) trapping
- Continue developing a plant list for the site and conduct sensitive plant surveys
- Continue expanding priority weeds for treatment as other weed species become scarce
- Coordinate with the San Elijo Lagoon Conservancy's Carlsbad Watershed Network (CWN) on continuing nonnative plant removal efforts in the riparian portion of the Reserve and in enhancing open areas
- Coordinate with contractors to remove additional riparian exotic species not dealt with by CWN Amend the HRP as needed, and implement the SEP
- Coordinate with contractors to remove the upland exotic plants fennel (*Foeniculum vulgare*) and black mustard (*Brassica nigra*)
- Involve Pacific Ridge School and Preserve Calavera volunteers in the planting and maintenance of the SEP restoration

- Manage the fire breaks that occur on the Reserve
- Remove trash and debris
- Maintain existing fences and gates
- Prepare and provide to the wildlife agencies an annual report that describes the management activities and information gathered during the fiscal year
- Patrol and conduct site enforcement
- Provide an accounting of funds to be spent in the fiscal year

Appendix 2 (Annual Task Schedule) identifies the approximate schedule of field work throughout the fiscal year.

II. Management Activities

The following sections identify and describe the activities to be performed during the next fiscal year. Based upon the Property Analysis Record (PAR) developed by the CNLM to outline long-term management tasks and costs, management activities for the HCA can be broken down into seven tasks: Capital Improvements, Biotic Surveys, Habitat Restoration and Maintenance, Public Services, Reporting, Office Maintenance, and Operations. Each of these categories is discussed below.

A. Capital Improvements

The maintenance of existing fencing, signs, gates, and the mini-kiosks are the primary capital improvement (site construction/maintenance) tasks this fiscal year.

- 1. Fences, gates and signs.** Fences, gates and signs will be maintained during the year as necessary.

B. Biological Surveys

Only plant surveys will occur on the Reserve this management year. We will map sensitive animal species in both the riparian and upland habitats as they are encountered, and continue searching for and mapping any rare plants found on the Reserve. Additionally, we will continue to add to the plant species list by performing a limited amount of plant surveys and supplying vouchers to the San Diego Natural History museum (SDNHM).

- 1. Sensitive Plant Surveys** The Center will survey for sensitive plant species in the spring of 2011. We will continue to count vegetative thread-leaved brodiaea (*Brodiaea filifolia*), and also count flowering individuals. Any nearby or new occurrences will be mapped. Since two new locations of flowering thread-leaved brodiaea were found in spring 2010, more work will be needed to find vegetative individuals in these locations and obtain counts.

- 2. Plant list** We will add to a growing plant species list for the site. Upland species have virtually all been accounted for, but more work is needed in the riparian areas. Some exotic

species (*Cupressus* sp., *Carya* sp. *Iris* sp.) are doing quite well in the floodplain but are not officially known to exist outside of managed ornamental landscapes. Work needs to be accomplished supplying voucher specimens to the SDNHM, so that the county checklist can continue to be updated, and so that we can have positive ID's on problematic species.

C. Habitat Restoration and Maintenance

- 1. Trap Brown-headed Cowbirds** CNLM has budgeted to trap for brown-headed cowbirds during the spring months, likely from April 1 to June 1, budget permitting. A contractor efficient in such methods will be used, and traps will be checked daily (following appropriate protocols) during the time that they are installed.
- 2. Mow Fuel Breaks** CNLM will mow existing fuel breaks (located along the Eucalyptus trees near the terminus of Marron Road, in the former agricultural land south of the Adobe, and along the southern boundary of the property) in the spring to maintain the defensible space located behind the residential communities.
- 3. Mow Weedy Upland Areas** If budget permits, CNLM will mow weedy areas located near the southern boundary of the Reserve. The hope is that native forbs and grasses will be allowed further resources for propagation and growth if the non-native biomass is cut prior to seed set. We will visually assess progress in this area, and continue enhancement efforts as needed based on our appraisal of conditions. We will perform mowing efforts when the thread-leaved brodiaea are between vegetative and flowering production, in order to minimize any threat to their physical integrity.
- 4. Nonnative Plant Removal and Oversight**
 - a. CWN** CNLM will be providing guidance and oversight to CWN while they continue to re-treat and remove nonnative plants from the riparian corridor located in the middle of the Reserve. They are working toward complete removal of the following ten invasive plants: Pampas grass (*Cortaderia selloana*), Mexican fan palm (*Washingtonia robusta*), Canary Island date palm (*Phoenix canariensis*), *Acacia* species, *Eucalyptus* species, giant reed (*Arundo donax*), shamal ash (*Fraxinus uhdei*), perennial pepperweed (*Lepidium latifolium*), Chilean pepper (*Schinus terebenthifolius*), and cape ivy (*Delairea odorata*). Shamal ash and Canary Island date palms are re-sprouting in many locations, and thus we will keep CWN aware of needed re-treatments.
 - b. Contractors** CNLM has created a weed removal priority list for the riparian areas of the Reserve (Table 1). These are mostly perennial species. We will contract a weed treatment crew to remove those species targeted during this management year, as well as others that were either missed, or failed to die. CNLM personnel will also control select weeds along riparian areas of the Reserve, and riparian edges. The majority of the weeds contracted for targeting are perennial weeds that have, or appear to have a fast rate of spread. Other annual or ephemeral perennial species (Bermuda buttercup and *Nasturtium*, for instance) may be targeted as hardy

perennials disappear.

Two five-man crew days have been budgeted for removal of mustard and fennel in the more difficult to reach areas where heavy equipment cannot reach. On some slopes there do exist some native grassland fragments that can be enhanced over time, providing yearly weed treatments take place before any seed is set.

Table 1. Weed treatment priorities and history

Common name	Species	CalIPC ranking
<i>Species targeted 2008-2011 (CWN project funds)</i>		
Pampas grass	<i>Cortaderia selloana</i>	High
Palms	<i>Washingtonia robusta</i> , <i>Phoenix canariensis</i>	Moderate, Limited
Acacia	<i>Acacia longifolia</i> , <i>A. cyclops</i>	Not listed
Eucalyptus	<i>Eucalyptus</i> spp.	Limited to Moderate
Giant reed	<i>Arundo donax</i>	High
Shamal ash	<i>Fraxinus uhdei</i>	Not listed
Perennial pepperweed	<i>Lepidium latifolium</i>	High
Brazilian pepper	<i>Schinus terebinthifolius</i>	Limited
German ivy	<i>Delairea odorata</i>	High
<i>Species targeted 2009-2011 (Endowment funds)</i>		
Florsits smilax	<i>Asparagus asparagoides</i>	Moderate
Iceplant	<i>Carpobrotus edulis</i>	High
Artichoke thistle	<i>Cynara cardunculus</i>	Moderate
English or Algerian ivy	<i>Hedera</i> sp.	High
Big periwinkle	<i>Vinca major</i>	Moderate
Edible fig	<i>Ficus carica</i>	Moderate
<i>Species targeted 2010-2011 (endowment funds)</i>		
Himalayan blackberry	<i>Rubus armeniacus</i>	High
Chinese elm	<i>Ulmus parvifolia</i>	Not listed
Harding grass	<i>Phalaris aquatic</i>	Moderate
Fireweed groundsel	<i>Senecio linearifolius</i>	Not listed
Bull thistle	<i>Cirsium vulgare</i>	Moderate
<i>Possible additional targets 2010-2011 (Endowment funds)</i>		
Poison hemlock	<i>Conium maculatum</i>	Moderate
Panic Veldt grass	<i>Ehrharta erecta</i>	Moderate
Calla lilly	<i>Zantedeschia</i> sp.	Limited
Bermuda buttercup	<i>Oxalis pes-caprae</i>	Moderate
Nasturtium	<i>Tropaeolum majus</i>	Not listed
Milk thistle	<i>Silybum marianum</i>	Limited
Italian thistle	<i>Carduus pycnocephalus</i>	Moderate
Japanese privet	<i>Ligustrum japonicum</i>	Not listed

- c. **Reserve Manager** CNLM personnel will continue removing nonnative plants throughout the Reserve in areas not already being maintained by the Carlsbad

Watershed Network, or where contractors are working under endowment funds. Exotic plants that are infrequently encountered like saltcedar (*Tamarix* sp.) and Johnson grass (*Sorghum halepense*) have been and will continue to be removed by the Reserve Manager as funds and time allow. Additionally, it appears that poison hemlock is on the increase in freshwater marsh locations on the southern side of the creek, and one area in particular will receive focused removal efforts on the part of the Reserve Manager.

5. Habitat Restoration

- a. SEP** A draft restoration plan has been sent to agencies for approval. Irrigation and plantings are planned to take place during the fall and winter of 2010-2011. Additionally, a wooden removable bridge is being considered in order to facilitate access to the former agricultural area that is the main portion of the SEP. The Center will work with Preserve Calavera and Pacific Ridge School in overseeing volunteer and student learning activities that benefit the establishment of native vegetation to the restoration.
- b. CWN** Carlsbad Watershed Network has offered additional men and materials for enhancing riparian areas where non-native plants were removed, and other areas where non-native cover is currently high. We have submitted plant lists to CWN, and have generated maps of areas suitable for particular plant palette introductions (Appendix 3). Based on soil salinity and nearby plants already occurring, a particular palette was developed for riparian edge grasslands that consists of hardy grassland species such as saltgrass (*Distichlis spicata*), and alkali sacaton (*Sporobolus airoides*). Other species to be placed in these areas includes Mexican rush (*Juncus arcticus* var. *mexicanus*), and spike-rush (*Eleocharis* sp.). Alkali sacaton does not occur on the Reserve, but much consideration of where it does occur led the Reserve Manager to conclude that this would fit well in particular localities with other plants that do occur very nearby. Riparian forest replanting did not include a mapping effort but rather an estimate of how many plants could be used in openings throughout the Reserve.

5. Trash Clean-Up Trash and debris accumulate in the Reserve due to transient encampments, and from high water events transporting trash from upstream locations. CNLM will continue working with the City or local environmental groups to help coordinate and staff these public cleanup events. This fiscal year we will also continue to personally remove trash as we find it.

D. Public Services

Public service activities include patrolling the Reserve and response to emergencies. However, other opportunities for public service will undoubtedly be forthcoming during the year, such as coordinating local groups, individuals volunteering for Reserve projects, and leading class field trips from local schools. Whenever possible, management will try to accommodate these activities.

1. Patrols Patrols will be performed about two to four times per month. Routine mending of fence breaks, collection of trash and debris, and replacement of signs are additional tasks undertaken during patrols. Additionally, CNLM employees will work with the City of Carlsbad Police Department to eliminate habitation of the Reserve by transients. Transients had been living in the Reserve for decades and CNLM hopes to keep the Reserve clear of habitation in the Reserve because it has compromised the health of the habitats in the Reserve. Observations of animal sightings and new human impacts will be gathered during patrols as well.

2. Emergency Response Hours have been allocated from the current budget for management to respond to emergencies on the Reserve. Such emergencies could include response to wildfires and problems reported by neighbors.

3. Public Outreach Several volunteer events will occur during the fiscal year with the public (i.e., environmental groups and the general public). Most of these activities will occur with Preserve Calavera as part of their participation in the SEP. We will also likely be working with Pacific Ridge School as part of their curriculum. They will also be helping install and maintain the SEP restoration.

E. Reporting

Activities included within reporting requirements include the management of the Reserve's database/GIS system and the production of various status reports to the USFWS, CDFG, and CNLM administration.

1. Database/GIS Management Data derived from biotic surveys, routine patrols and restoration activities will be entered into and maintained in the Reserve's existing database and GIS system by CNLM. Efforts will be made to coordinate and standardize database fields and parameters with other Reserves.

2. Reports

- a. Year-End/Agency Reports** By the end of December 2011, an annual report will be prepared by the Reserve manager detailing the results of the (previous fiscal) year's management activities. This report will include recommendations for the continuation of various activities for the following fiscal year and will be submitted to the USFWS, CDFG, and the City of Carlsbad as required under permit reporting conditions.
- b. Annual Work Plan** The work plan for the next fiscal year will be formulated by the end of this fiscal year and will be based upon experiences during previous years operations. This work plan will be submitted to the USFWS, CDFG, and the City of Carlsbad.
- c. Management Plan** A draft five-year management plan was provided to CDFG during the 2007-2008 fiscal year. CNLM will revise and finalize this management plan this fiscal year based on the comments provided by CDFG, if provided.

Comments from CDFG are awaiting input from archaeologists concerning cultural resources present on-site.

F. Office Maintenance

Reserve staff will maintain offices in an organized manner to facilitate maximum efficiency. This section of the budget includes outlays for general office work, utilities, and telephones, among other items/tasks.

G. Operations

Operations include the training and professional growth of Reserve Management personnel, and inspection of the Reserve by CNLM administration. Funds have been allocated in the current budget for Reserve Management to attend workshops or seminars during the fiscal year. Also included within this category are annual employee reviews.

III. Workload and Budgets

A. Supervision and Staffing

The Area Manager will be supervised by CNLM's Director of Conservation Science (DCS), Dr. Deborah Rogers. Tasks and priorities will be coordinated by the Area Manager and approved by the Dr Rogers. The Area Manager, Markus Spiegelberg will supervise the Preserve Manager and Rangers. Additionally, Dr. Rogers will assist with document review and scientific research conducted on Center preserves.

B. Budgeting

The total budget for this fiscal year is \$36,658. Every effort will be made by Reserve Staff Management to allocate time and expenses according to this estimated budget.

IV. References

CNLM/CDFG 2007. Buena Vista Creek Ecological Reserve Management and Funding Agreement with attachments. August 20, 2007.

CNLM 2008. Habitat Management Plan for the Buena Vista Creek Ecological Reserve, 2008-2012. In review.

V. Appendices

Appendix 1: Reserve Location Maps

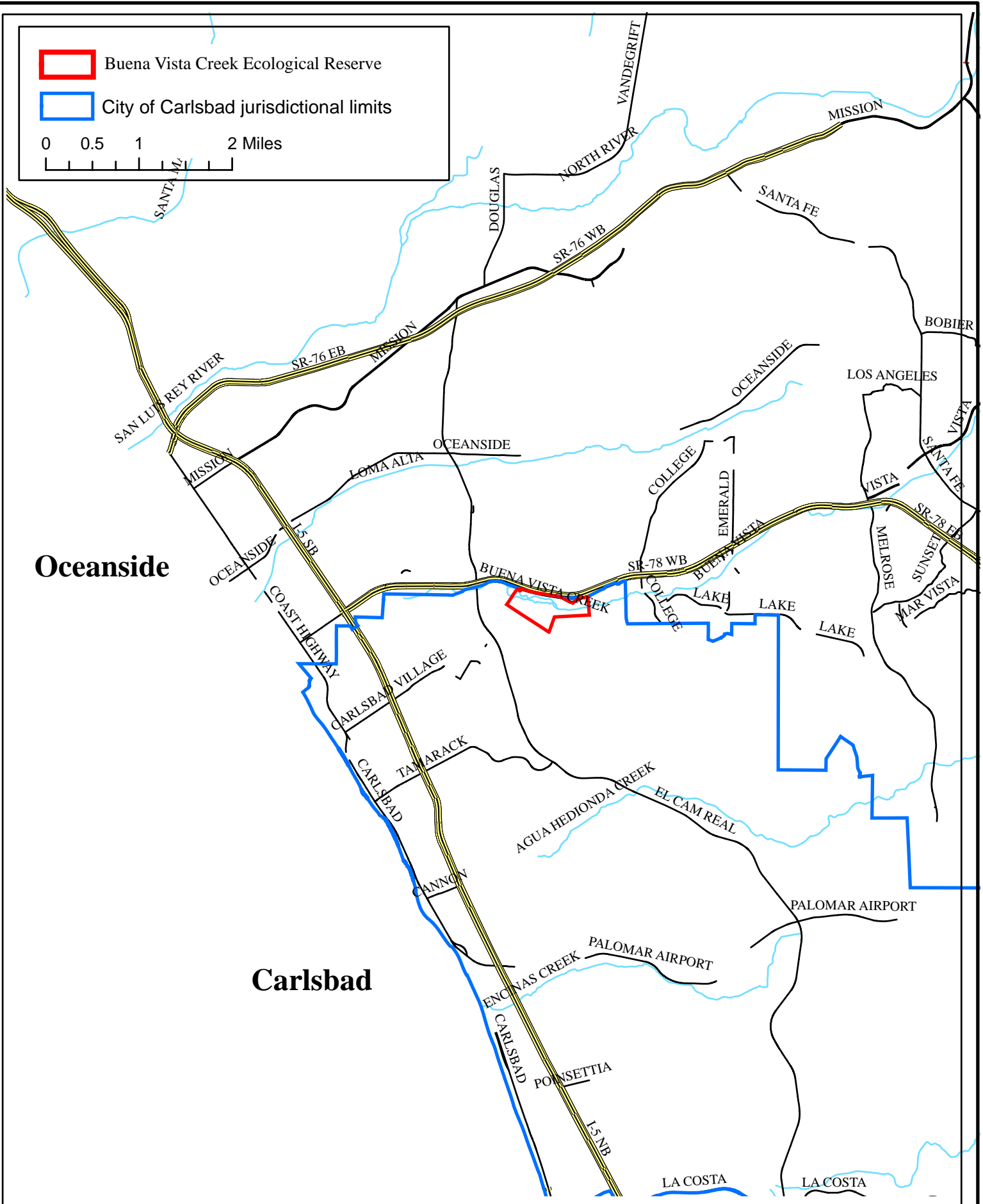


Figure 1
Project Location
Buena Vista Creek Ecological Reserve-Carlsbad, CA





Figure 2
Project Vicinity
Buena Vista Creek Ecological Reserve-Carlsbad, CA

Appendix 2: Annual Task Schedule

Task	October- December 2010	January-March 2011	April - June 2011	July - September 2011
Riparian exotic plant removal, including oversight of CWN	X		X	X
Upland exotic plant removal		X	X	
Trap cowbirds			X	
Sensitive plant surveys		X	X	
Plant list			X	X
GIS/Database			X	
Habitat maintenance: fuel breaks			X	
Habitat restoration	X	X	X	X
Fencing/Signage/ Trash collection	X	X	X	X
Patrolling	X	X	X	X
Reports	X			X
Public outreach	X	X	X	X

Appendix 3: CWN Enhancement Locations

